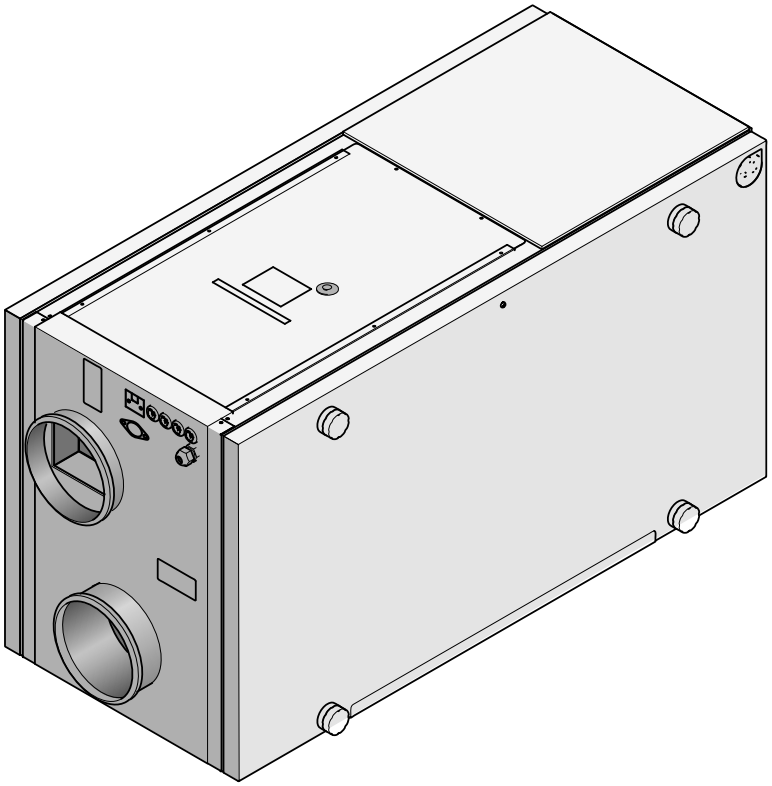
systemair

SAVE VSR 300/500



EN User Manual

Document in original language

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1 Warnings

The following admonitions will be presented in different sections of the document:

⚠ Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections and maintenance work must be carried out by an authorized installer and in accordance with local rules and regulations.

⚠ Warning

- The system should operate continuously, and only be stopped for maintenance/service.
- The installation of the unit and complete ventilation system must be performed by an authorized installer and in accordance with local rules and regulations.
- Beware of sharp edges during mounting and maintenance. Use protective gloves.
- All though the Mains supply to the unit has been disconnected there is still risk for injury due to rotating parts that have not come to a complete standstill.
- Make sure that filters are mounted before starting the unit.
- This product must only be operated by a person which has suitable knowledge or education within this field or carried out with the supervision of a suitably qualified person.

⚠ Caution

- Do not connect tumble dryers to the ventilation system.
- Duct connections/duct ends must be covered during storage and installation.

2 Introduction

The SAVE VSR 300/500 is a heat recovery ventilation unit with a built in rotating highly efficient heat exchanger. The SAVE VSR 300/500 is suitable for houses with up to 240/360 m^2 heated living area. It supplies filtered outdoor air to residential areas and extract air from bathroom, kitchen and wet rooms. Both models come with a 1670 W installed re-heater battery.

3 Configuration

3.1 Control panel

The control panel is used to make the necessary adjustments.

An external control panel can be connected to the unit. The control panel is delivered with a 12 m cable. Cables in other lengths can be obtained from the supplier.

The illustration below shows the control panel with a short description.

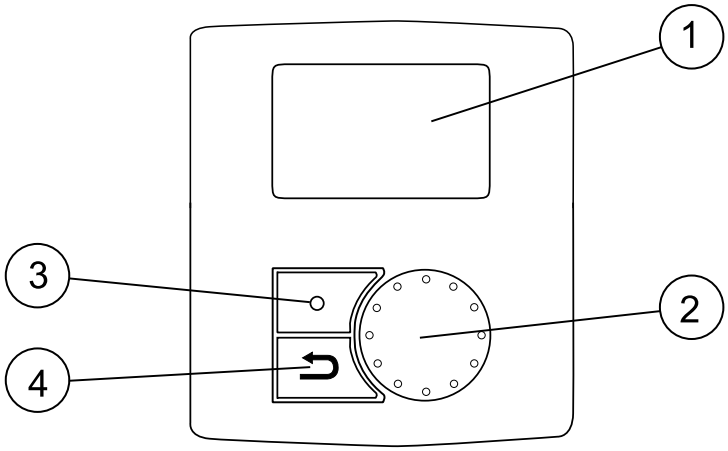
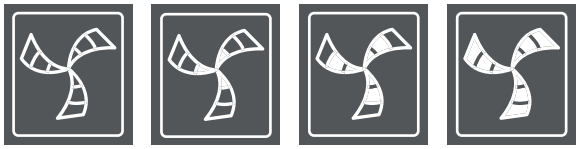


Fig. 1 Control panel

Position	Description	Explanation
1	Display	Shows symbols, menus and settings
2	SELECTION knob	Move through the menu lists or change settings and values by turning the knob left or right
3	CONFIRM button	Confirm menu choices or settings by pressing the button
4	BACK button	Step back in the menu levels and to abort an initiated parameter change and restore the original value by pressing the button

3.1.1 Display symbols

Symbol	Description	Explanation
	Temp	Illustrates the current set temperature. The temperature setpoint is set in 6 steps (from completely empty to filled symbol). Turn the SELECTION knob to choose temperature. Press CONFIRM to save the setting.
	Fan speed	Illustrates the current fan speed. The fan speed can be set manually in 4 steps: Off, Low, Nom and High. Turn the SELECTION knob to choose fan speed. Press CONFIRM to save the setting.  A B C D A. Ventilation off.[1] B. Low ventilation: Can be used when leaving the building for a longer period C. Nominal ventilation: Will give required air change under normal conditions. D. Maximum ventilation: To increase the airflow if necessary.
	Service	Press CONFIRM to access the service menu.
	Alarm	Press CONFIRM to access the alarm list.

1. The fan can be set to OFF by activating MAN fan stop. See service menu description under functions.

Note:

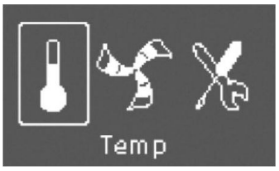
It is not recommended to activate MAN fan stop (set fan to OFF) in standard households.
If MAN fan stop is activated, the unit should be provided with dampers in exhaust and fresh air ducts to avoid cold draught and risk of condensation when the unit has been stopped.

3.2 Temperature settings

The supply air temperature is set manually in 6 steps in the main menu display by choosing the temperature symbol. If an electrical or water re-heater is installed the temperature setpoints are: 12.0, 14.5, 17.0, 19.5 and 22.0 °C. Default value is 12.0 °C.

If the re-heater is deactivated, the temperature steps are:
15.0, 16.0, 17.0, 18.0 or 19.0°C. Default value is 15.0 °C.

Each temperature step is illustrated by increasing the filling of the temperature symbol.



3.3 Manual setting of fan speed

It is possible, at any time, to manually set the fan speed in the main menu display. By choosing the fan symbol and confirming, it is possible to increase or decrease the fan speed in the 4 steps: Off, Low, Nom and High. By doing so, you override the programmed week schedule for the unit until the end of the present time period in the week program.

Note:

The fan can be set to OFF by activating MAN fan stop. See service menu description under functions.

3.4 Programming the Week schedule

Program how you want the unit to operate according to the week schedule. It's possible to set 2 periods per day.

Set the week schedule according to below procedure:

1. Go to the service menu by using the SELECTION knob.	

2. Enter the service level by typing the password, default 1111.
 	
Use the SELECTION knob for each digit and confirm with the CONFIRM button after each set digit and choose `NO` for the system not be locked.
	Password
	`Password XXXX`
	`Locked YES/NO`

3. Go to: `Week program`	**Service** `Week program`
4. Choose `Week program` again.	**Week program** `Week program`

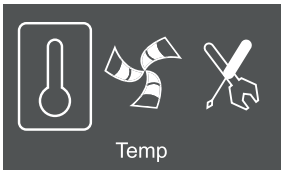
4. Set week day and time you want the unit to be in ON level. Two periods per day can be programmed. The rest of the time the unit will be in OFF level.	**Week program**
	
	`Day: MON`
	`Per 1: 07:00 16:00`
	`Per 2: 00:00 00:00`

5. Go back to the previous dialogue frame with the BACK button and go down to `Fan speed`.	**Week program** `Fan speed`

7. Set which fan speed the fan is supposed to be running in the ON level, choose between Low, Nom or High. Set which fan speed the fan is supposed to be running in the OFF level, choose between OFF, Low, Nom or High. **Note:** If an electrical re-heater battery is installed and active and the unit is shut down from the control panel, for example by choosing OFF. When the unit is in OFF level in the week program, the fans will continue to run for 3 minutes, to prevent the heater from triggering the over heat protection sensor, before they stop.	**Fan speed** On level: low/nom/high Off level: off/low/nom/high
8. Step back with the BACK button until you reach the main menu display	

3.5 Manual and automatic summer mode

Manual summer mode occurs if one temperature setpoint step lower than the 12 °C step is selected. The temperature symbol on the main menu is then completely empty.



If the re-heater is active, it will switch off during manual summer mode. Manual summer mode aborts automatically after two minutes if the supply air temperature is less, or equal to, 5 °C.

If a water heater battery is installed and activated, the manual summer mode is aborted if the outdoor air or supply air temperature is less, or equal to, 5 °C.

The unit will automatically alternate between winter operation with heat recovery and summer operation without heat recovery.

4 Maintenance of the unit

Maintenance of the SAVE VSR 300/500 should normally be performed 3 - 4 times a year.

4.1 Warnings

⚠ Danger

- Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical maintenance work must be carried out by an authorized installer and in accordance with local rules and regulations.

⚠ Warning

- The system should operate continuously, and only be stopped for maintenance/service
- Beware of sharp edges during maintenance. Use protective gloves.
- Make sure that filters are mounted before starting the unit

4.2 Open the side cover

⚠ Danger

- Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!

Loosen the four knobs and loosen the Philips screw to open the side cover.

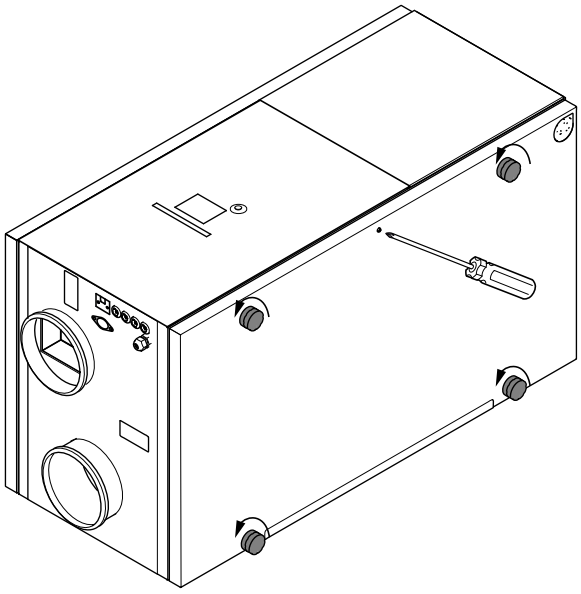


Fig. 2 Open the side cover

4.3 Changing filters

⚠ Danger

Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!

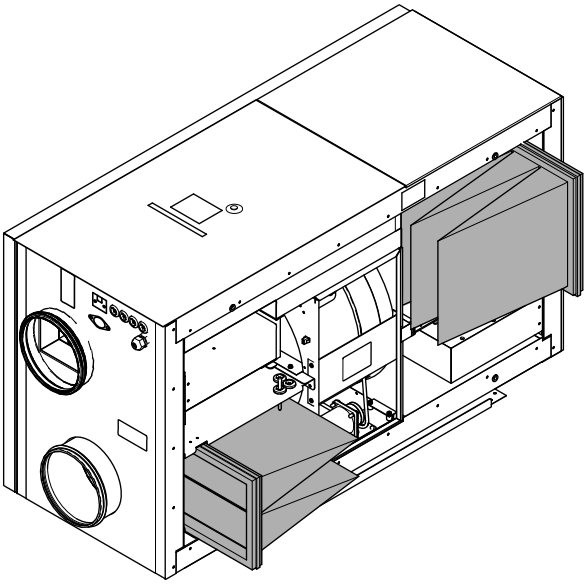


Fig. 3 Supply and extract air filters

The filters are to be changed every 6/9/12/15 months, default value is 12 months. When the filters have been changed the filter timer must be reset. See chapter 4.4.

The factory installed filters are of filter quality F7 for the supply air and G3 for the extract air filter. The filters need to be replaced when polluted. New sets of filters can be acquired from your installer or wholesaler.

Filter quality G3 can be installed for supply air filtering.
The filter type is labelled on the top of the filter.

⚠ Caution

If the filter types are changed, the heat recovery system may need re-configuration to function optimally.

If type G3 filters are used instead of F7, the system curve for Supply Fan (SF) must be changed:

For G3 type filter: 11–20, for F7 type filter: 1–10. See Installation and Service Instruction.

1. Stop the unit by disconnecting the mains.
2. Open and remove the side cover. See chapter 4.2.
3. Pull out the filters towards you. Some force may be needed.
4. Insert the new filters. Make sure that the correct filter types are inserted. See note above.
5. Replace and lock the side cover and connect the unit to mains.

4.4 Resetting the filter time

1. Go to the service menu by using the selection knob.	
2. Enter the service level by typing the password. Use the SELECTION knob for each digit and confirm with the CONFIRM button after each set digit and choose "NO" for the system not be locked.	**Service** —>Password Locked YES/NO
3. Go to: `Filter period`, press CONFIRM. Choose: `Reset: YES` with the SELECTION knob and then CONFIRM. Change, if necessary, `Time to replace X month`, to the time of your choice with the SELECTION knob and then press CONFIRM. Press the BACK button until you reach the main menu.	**Filter period** Time to replace: 6/9/12/15 month Reset NO/YES

4.5 Checking and cleaning the heat exchanger

⚠ Danger

Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!

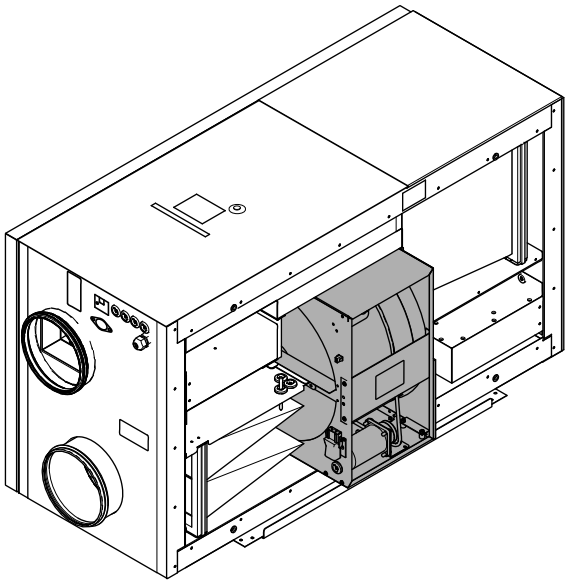


Fig. 4 Heat exchanger

Even if the required maintenance is carried out, dust will build up in the exchanger block. It is therefore of vital importance for the upkeep of a high efficiency that the exchanger block is removed from the unit and cleaned periodically as illustrated below. Clean the heat exchanger at least every 3 years or when required.

1. Stop the unit by disconnecting the mains.
2. Open and remove the side cover. See figure 4.2.
3. Disconnect the rotor power supply and the rotor sensor. Both cables are found beside the rotor.

4. Pull out the rotor towards you. Some force may be needed.
5. Clean the rotor.

   Wash in hot soapy water. Do not use detergent containing ammonia. Rinse using, for instance, a shower handle or carefully with compressed air.

⚠ Warning

Ensure the rotor motor is not exposed to moisture

6. Remount the rotor. Don't forget to reconnect the rotor power and sensor cables.
7. Replace and lock the side cover and connect the unit to mains.

4.6 Cleaning the fans

⚠ Danger

- Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!

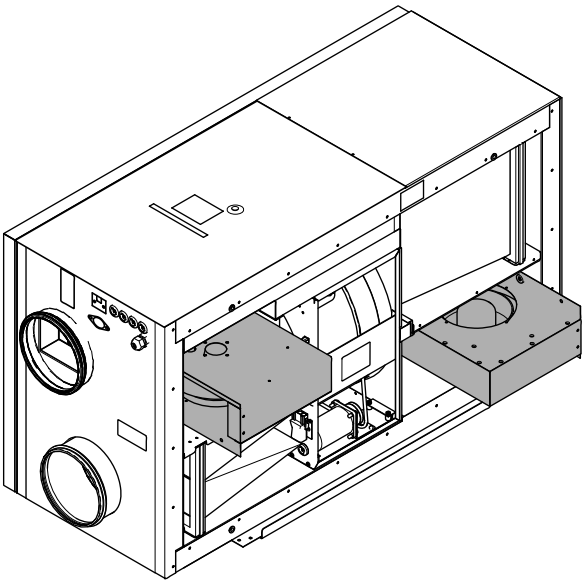


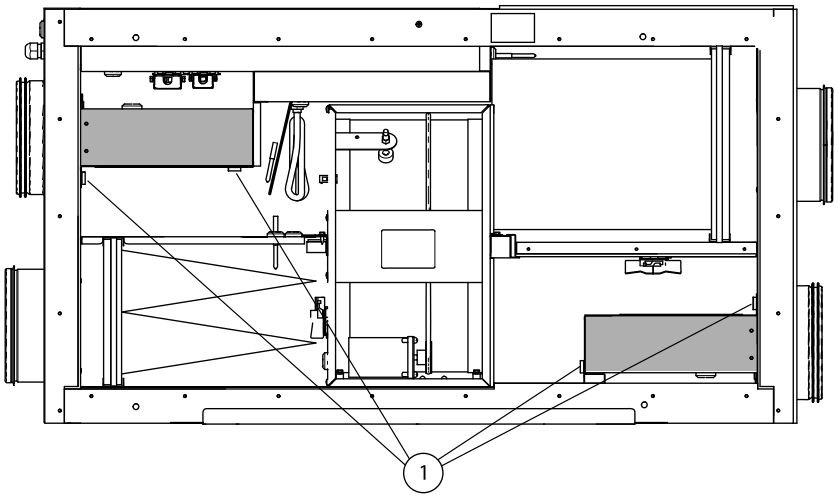
Fig. 5 Extract and supply air fans

The motor bearings are life time lubricated and maintenance free.

Even if the required maintenance, such as changing of filters is carried out, dust and grease may slowly build up inside the fans. This will reduce the efficiency.

The fans may be cleaned as illustrated in below procedure.

1. Stop the unit by disconnecting the mains.
2. Open and remove the side cover. See chapter 4.2.
3. Disconnect the fan power cables. The cables are found beside the fans.
4. Loosen the mounting screws (1) and pull the fans towards you. Some force may be needed.



5. Clean the fans with a cloth or a soft brush. Do not use water. White spirit can be used to remove obstinate deposits.

   Allow the fans to dry properly before remounting.

6. Remount the fans. Don't forget to reconnect the fan power cables.
7. Replace and lock the side cover and connect the unit to mains.

4.7 Replacing rotor drive belt

⚠ Danger

- Make sure that the Mains supply to the unit is disconnected before performing any maintenance or electrical work!

If the alarm `Rotor` is raised, see chapter 6.1, the rotor drive belt may be damaged or broken.

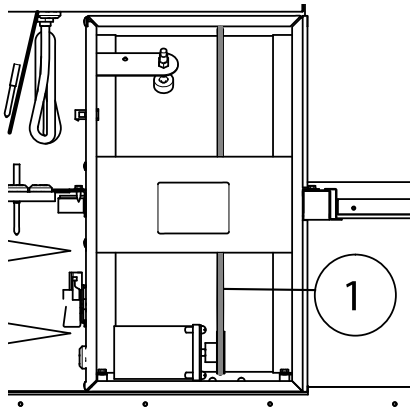


Fig. 6 Rotor drive belt

The rotor drive belt (1) can be acquired from your installer or wholesaler.

The replacement drive belt is adjustable and delivered with a nipple attached in one end.

1. Stop the unit by disconnecting the mains.
2. Open and remove the side cover. See chapter 4.2.
3. Remove the broken drive belt.
4. Use tape to attach the drive belt to the rotating heat exchanger, and rotate the exchanger by hand to get hold of the drive belt.
5. Remove the tape and put the ”empty” end on to the nipple. Press the ends firmly towards each other and tighten the nipple.

6. Pull the drive belt on to the belt pulley and rotate the exchanger by hand. Check that the belt pulley rotates.

Note:

If the drive belt slips, the drive belt may be too long and needs to be shortened. Cut the drive belt 5 mm and go to step 5.

7. Replace and lock the side cover and connect the unit to mains.
8. Check that the alarm has ceased on the Control Display.

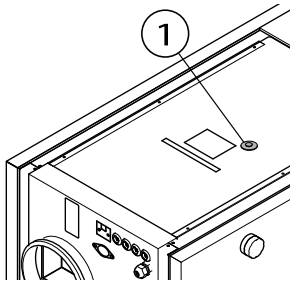
Note:

If the alarm remains, contact the installer.

4.8 Overheat protection reset button

If the supply air temperature is low, it can indicate that the over heat protection is triggered. The overheat protection can be reset by pressing the reset button.

The button is placed on the top cover of the unit.



1. Reset button

5 Duct system maintenance

5.1 Cleaning extract louvres and supply air diffusers

The system supplies fresh air to your home and extracts the used indoor air via the duct system and diffusers/louvres. Diffusers and louvres are mounted in ceilings/walls in bedrooms, living room, wet rooms, WC etc. Remove diffusers and louvres and wash in hot soapy water as required (diffusers/louvres must not be exchanged). Cleaning of diffusers/louvres can be done as necessary.

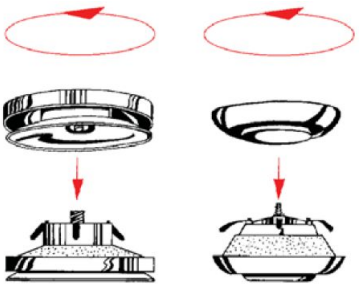


Fig. 7 Diffusers and louvres

5.2 Checking the outdoor air intake

Leaves and pollution could plug up the air intake grille and reduce the capacity. Check the air intake grille, and clean as necessary. It is recommended to do this at least twice a year.

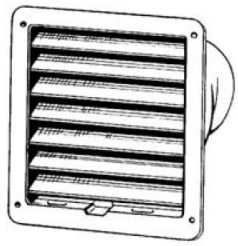


Fig. 8 Intake grill

5.3 Checking the roof cowl (if fitted)

The roof cowl (if fitted) connected to the exhaust air duct needs to be checked at least twice a year and cleaned if necessary.

5.4 Checking and cleaning the duct system

Dust and grease deposits may build up in the duct system, even if required maintenance such as changing of filters is being carried out. This will reduce the efficiency of the installation.

The duct runs should therefore be cleaned/changed when necessary. Steel ducts can be cleaned by pulling a brush soaked in hot soapy water, through the duct via diffuser/louvre openings or special inspection hatches in the duct system (if fitted).

It is recommended to do this every 5 years and is normally carried out by authorized companies specialized in this area.

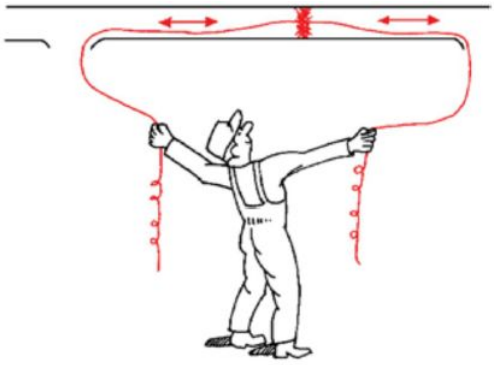


Fig. 9 Cleaning duct system

6 Trouble shooting

A warning triangle with text in the display indicates an alarm. Turn menu selector to the warning triangle and press confirm twice to view the alarm.

⚠ Danger

Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work on the unit!

6.1 Alarm list

Alarm	Explanation	Do the following
Fan	Indicates error on either supply or extract air fan.	The alarm is displayed in the control panel. Contact your installation company or place of purchase.
EMT/Frost	Indicates triggered frost protection (in case of installed water heating battery) or triggered overheat protection (in case of installed electric re-heater battery).	A triggered frost protection alarm results in the following: • Both fans stop. • Outdoor and exhaust air dampers closed. • Water valve opens completely (10 V signal goes out to the actuator). The unit will restart once the water temperature reaches +5°C above the set frost protection temperature. A triggered over heat protection gives an alarm in the control panel. Reset by pressing the red button placed on the top cover of the unit. 4.8 If the problem continues contact your installation company or place of purchase.
Rotor	Indicates a rotor malfunction.	The alarm is displayed in the control panel. The rotating heat exchanger has stopped. Check the rotor belt. See chapter 4.7. If the heat exchanger is still rotating, the rotor sensor may be faulty. Contact your installation company or place of purchase.

Alarm	Explanation	Do the following
Pb Fail	Error in connection with relay card for the electrical re-heater (if installed and activated). ET2 may be triggered due to high temperature.	The alarm is displayed in the control panel. The heater will not be activated. For triggered ET2, wait 10–15 min. If the error remains, contact your installation company or place of purchase.
Temp	Malfunction in one or more of the temperature sensors.	The alarm is displayed in the control panel. Contact your installation company or place of purchase.
Filter	Time for filter change.	The alarm is displayed in the control panel. Change filter according to the instructions in chapter 4.3.

Systemair AB reserves the right to make changes and improvements to the contents of this manual without prior notice.

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